Chronic Lymphoid Leukemia (CLL)

This is the most common adult leukemia in the Western Hemisphere, accounting for 30 percent of all Leukemias. It always involves the blood and bone marrow. When it advances, it involves lymph glands, spleen and liver. CLL occurs twice as frequently in men as in women. It is more commonly seen after age 50. This disease is a result of overproduction of mature lymphoid cells. The cause of this illness is unknown. It is, however, associated with a peculiar abnormality of chromosome number 12. The Course of this disease is highly variable, with some patients living for 20 years or longer and others dying from it in a few months. Still, many survive for several years until a more aggressive phase of CLL supervenes.

It is important to identify young patients with a poor prognosis, who may benefit from such aggressive therapy as high dose chemotherapy followed by bone marrow transplantation. Presence of a unique Cytogentics abnormality(deletion of long arm of chromosome 11) has been linked to a poor prognosis and more aggressive course.

Signs and Symptoms

Patients may not manifest any signs for many years. As the disease progresses, it can cause any of the following problems:

- Enlargement of lymph glands
- Enlargement of spleen
- Enlargement of Liver
- Anemia
- Low platelet count
- Frequent infections
- Fever
- Weight loss
- Night sweats

Diagnosis

The diagnosis is often made incidentally, when an elevated white blood count is noticed in a routine blood count. A bone marrow test will establish the diagnosis. White blood count may be extremely high. Evaluation of blood and bone marrow under microscope will lead to a diagnosis.

Staging

Refers to the extent of the disease and is a very good guideline as to the treatment plans and outcome of CLL.

- Stage 0 is when patients have **high white bl od counts**, absent other findings.
- Stage 1 is when patients develop **enlargement of lymph glands** along

with high blood counts.

- Stage 2 is when a patient with Stage 1 progresses and **enlargement of spleen or liv r**, or both, occurs.
- Stage 3 is when a patient develops anemia, which may or may not be associated with Stage 1 or Stage 2 findings.
- Stage 4 s when a patient develops low platelet count, which may or may not be associated with Stage 1, Stage 2 or Stage 3 findings.

Treatment

Patients with very early stages of the disease (Stages 0 to 2) are not treated at all. Treatment is offered to patients who have developed a major complication from this illness, such as anemia, low platelet count, frequent infections, etc. (Stages 3-4) or suffer from fever, weight loss, or night sweats. A very high white blood count, although disturbing to patients, is not an indication to initiate treatment. Many studies have shown that treatment of patients with Stages 0-2 may even be detrimental.

Some patients with CLL may develop an immune mediated low platelet count, which can result in destruction of platelets not due to Stage 4 disease. A bone marrow test will make this determination. Such patients are normally treated with Prednisone or IV IgG.

The following is a list of the most common drugs used in treatment of CLL:

Chlorambucil, Vincristine, Prednisone, Cytoxan, Fludarabine, Pentostatin

The role of Bone Marrow Transplantation in CLL is very vague at this time. Patients who develop CLL at younger ages, or those who have an identical twin, should be considered for enrollment in a clinical trial using bone marrow transplantation.

Prognosis:

Patients with Stages 0-1 have an excellent prognosis. The disease may remain silent for years. It may, however, gradually transition into higher stages. Prognosis of Stages 3-4 depends on response to chemotherapy.

Leukemias

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